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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/661,481	09/14/2000	KOJI KAKIZAKI	A-379	9242

802 7590 03/14/2003

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EXAMINER

MONBLEAU, DAVIENNE N

ART UNIT PAPER NUMBER

2828

DATE MAILED: 03/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/661,481

Applicant(s)

KAKIZAKI ET AL.

Examiner

Davienne Monbleau

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Paul IP

PAUL IP
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 27 July 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 1, the phrase “adapted to” is vague and does not offer a positive limitation to the apparatus.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1, to the extent taught and understood, is rejected under 35 U.S.C. 102(e) as being anticipated by Yoshida et al. (U.S. Patent No. 6,389,049). Yoshida et al. disclose in column 1 lines 12-20 a gas laser apparatus comprising two main discharge electrodes (it is inherent that the electrodes are within a discharge chamber) and a magnetic pulse compression circuit. Yoshida et al. further disclose in Figure 7 that said discharge electrodes (1 and 2) are connected to output

Art Unit: 2828

terminals from said magnetic pulse compression circuit, and in Figure 8 that a laser oscillating operation is performed by a first half-cycle of a discharge oscillating current waveform of one pulse in which polarity is reversed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 and 3, to the extent taught and understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (U.S. Patent No. 6,389,049) in view of Hoffman et al. (U.S. Patent No. 6,018,537). Regarding Claim 2, Yoshida et al. teach in Figure 7 that said magnetic pulse compression circuit comprises a series circuit including a first magnetic switch (231-SL1), a first capacitor (C1), a second capacitor (C2), a second magnetic switch (232-SL1), output terminals at the end of said second magnetic switch (232-SL1) and said second capacitor

Art Unit: 2828

(C2), and a peaking capacitor (CP). Yoshida et al. do not teach the distance between said discharge electrodes, the partial pressure of fluorine, of the specific values of the capacitance and inductance for the circuit components. Hofmann et al. teach in column 15 lines 29-31 that said discharge electrodes are between 12.7 mm and 25.4 mm apart. Hofmann et al. further teaches in column 15 line 65 to column 16 line 16 that said partial pressure of fluorine is less than 0.12% of a total pressure of a laser gas. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the fluorine concentration and the electrodes in Yoshida et al., as taught by Hofmann et al., for optimal discharge between said electrodes. Yoshida et al. teach that the apparatus is a gas discharge laser, but do not teach that the gas is ArF. Hofmann et al. teach in column 1 lines 40-45 that said laser may be an ArF laser, which is known in the art. Yoshida et al. illustrate in Figure 8 the rise time and breakdown voltage of the laser. Yoshida et al. do not teach the specific values of the capacitance and inductance for the circuit components. Hofmann et al. teach in column 10 line 10 to column 11 line 21 various values for capacitance, voltage and inductance. It would have been obvious to one of ordinary skill in the art at the time of the invention to use specific electrical components based on their properties since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The rise time is a result of the electrical component properties.

Regarding Claim 3, see discussion on Claim 2. Determining the optimum values of the breakdown voltage and rise time involve routine skill in the art.

Art Unit: 2828

Response to Arguments

Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Watanabe et al. (U.S. Patent No. 5,251,226) teach in Figure 4 an oscillating current that is applied to the discharge electrodes. Wakata et al. (U.S. Patent No. 4,837,773) teach in Figure 4c an oscillating current that is applied to the discharge electrodes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 703-306-5803. The examiner can normally be reached on Mon-Fri 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 703-308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Davienne Monbleau

DNM
March 7, 2003

Paul Ip
PAUL IP
SUPERVISORY PATENT EXAMINER
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